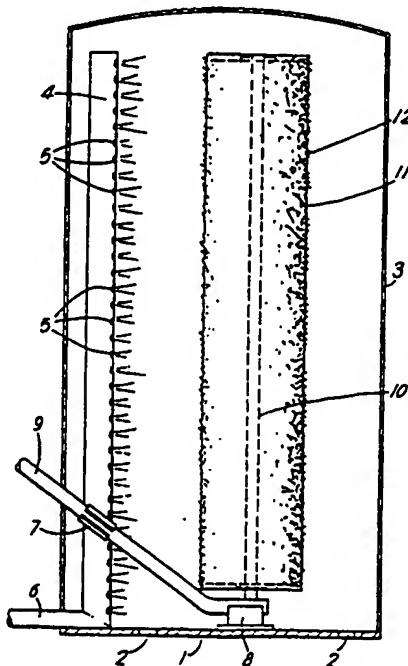


## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5 : <b>B44D 3/00, A46B 17/06 B08B 3/02</b>	A1	(11) International Publication Number: <b>WO 93/24337</b> (43) International Publication Date: <b>9 December 1993 (09.12.93)</b>
(21) International Application Number: <b>PCT/GB93/01148</b>		Published <i>With international search report.</i>
(22) International Filing Date: <b>28 May 1993 (28.05.93)</b>		
(30) Priority data: <b>9211392.7 29 May 1992 (29.05.92) GB</b>		
(71)(72) Applicant and Inventor: <b>WARD, Mark, William [GB/GB]; 4 Iris Road, Epsom, Surrey KT19 9NH (GB).</b>		
(81) Designated States: <b>AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</b>		

## (54) Title: DEVICE FOR WASHING PAINT ROLLERS



## (57) Abstract

A device for washing the roller paint applicator comprises means for supporting the paint applicator so that the roller (11, 12) is free to rotate, means (4, 5, 6) for directing a jet or plurality of jets of water against the roller (11, 12) over substantially its whole axial length in a direction with a tangential component whereby to cause the roller (11, 12) to rotate about its axis (10) and cover means (3) for covering the roller (11, 12) and the water directing means (4, 5) for preventing undesired splashing during operation of the device.

Best Available Copy

### DEVICE FOR WASHING PAINT ROLLERS

This invention relates to a device for washing paint rollers.

Paint rollers as used by decorators, whether the roller is made from lamb's wool or foam are extremely difficult to clean from paint. Normally intensive washing under a running tap is required and in order to get a roller absolutely clean many minutes of washing and many gallons of water are required. There is therefore a need for a simple and efficient device for washing paint rollers.

According to the invention a device for washing the roller of a paint applicator comprises means for supporting the paint applicator so that the roller is free to rotate, means for directing a jet or plurality of jets of water against the roller over substantially the whole axial length of the roller in a direction with a tangential component whereby to cause the roller to rotate about its axis and cover means for covering the roller and the water directing means for preventing undesired splashing during operation of the device.

According to one form of the invention the device comprises a base, means for mounting the paint applicator with the axis of the roller substantially perpendicular to the base such that the roller is free to rotate about its axis water application means arranged to direct water against the paint roller over substantially the whole of its length and in a direction with a tangential component whereby application of the water against the roller causes the roller to rotate about its axis, means for connecting said water application means to a source of water under pressure and a cover for fitting over the roller and the water application means and co-operating tightly with the base such as to prevent escape of water and means preferably associated either with the base or with the cover allowing drainage of water from within the device.

The device is extremely efficient and economic of water use. Because the force of the water impinging on the roller causes the roller to rotate, a fresh portion of the surface of the roller is continually presented to the action of the water, water in the roller with dissolved paint is continually spun out of the roller by centripetal force and paint within the roller is continually passed to the surface.

It has, for example, been found that when the device is connected to an ordinary domestic water supply, roller cleaning can be achieved to a degree that is much greater than that achieved by 20 minutes of hand washing, within about 2 minutes. A further surprising advantage is that the roller when taken from the device after cleaning is substantially dry.

The water application means will normally comprise a pipe having a plurality of water outlets providing a plurality of high pressure jets for impinging upon the roller. The water applicator may have means for connecting it to a domestic water supply, for example, a hose pipe connection or it may be connected to other means such as a high pressure hand pump associated with a water reservoir.

The means for holding the paint roller may, for example, comprise spring clips or the like which co-operate with the handle of the roller and these may be positioned in any desired location. The major requirement is that the roller shall be free to rotate under the action of water impinging on the roller from the water application means.

The device may be made out of any suitable desired material and for cheapness and lightness practically the whole apparatus can be made out of a plastics material.

In a second form of the device, which may be used with rollers that are supported from both ends on a yoke with a centrally mounted

handle, the cover may have a longitudinal slot with perpendicular notches to receive the yoke in a suitable manner to allow rotation of the roller. In this case the cover may be made of resilient material that can be sprung apart to allow insertion of the yoke of the roller and that will then spring back to close the slot, or other means may be provided for closing the slot. Surprisingly, however, it is found that it is not necessary that the longitudinal slot in the cover of such a device need be closed since sufficient water is spun off the roller that there is very little that can escape through the slot if the slot is left open.

In this form of the device both ends of the cover are of course open. Preferably the end of the cover that will be uppermost in operation is closable by a cap or plug that also carries the water application means. The lower end of the cover may be left open for drainage or may be closed with a cap or plug with drainage means.

One form of device according to invention will now be described in greater detail with reference to the drawings.

As shown in the drawing the device according to the invention comprises a base 1 having drain holes 2 and cover 3, a water applicator pipe 4 having a plurality of water outlets 5 and a water inlet 6 attached to the water applicator pipe 4. The water inlet 6 is provided with means (not shown) for connecting it to a source of water under pressure.

Clips 7 and 8 respectively, are mounted on the water applicator pipe 4 and the base 1 to hold the handle 9 of a paint roller to be cleaned in the device.

The paint roller is a conventional paint roller which comprises a cranked handle 9 (only part of which is shown) an axial shaft 10, on which is mounted a rotatable inner roller 11 and a paint applicator surface layer 12, which may, for example, comprise a sheath of lamb's wool or plastics foam.

In use of the device the cover is removed and a paint roller mounted as shown in the drawing with its handle 9 held in clips 7 and 8. The cover is then replaced and water is fed under pressure through inlet 6 from whence it passes into pipe 4 and issues from outlets 5 as a high velocity jet with a tangential component against the paint applicator surface 12 of the paint roller. This causes the roller comprising inner roller 11 and surface 12 to rotate about the axial 10. As it rotates a mixture of water and paint is flung off the surface 12 under the action of centripetal force and is restrained by the surface of cover 3 from whence it drains down and leaves the device through drain holes 2. As the roller continues to rotate paint underlying the surface of layer 12 is forced to the surface and is removed.

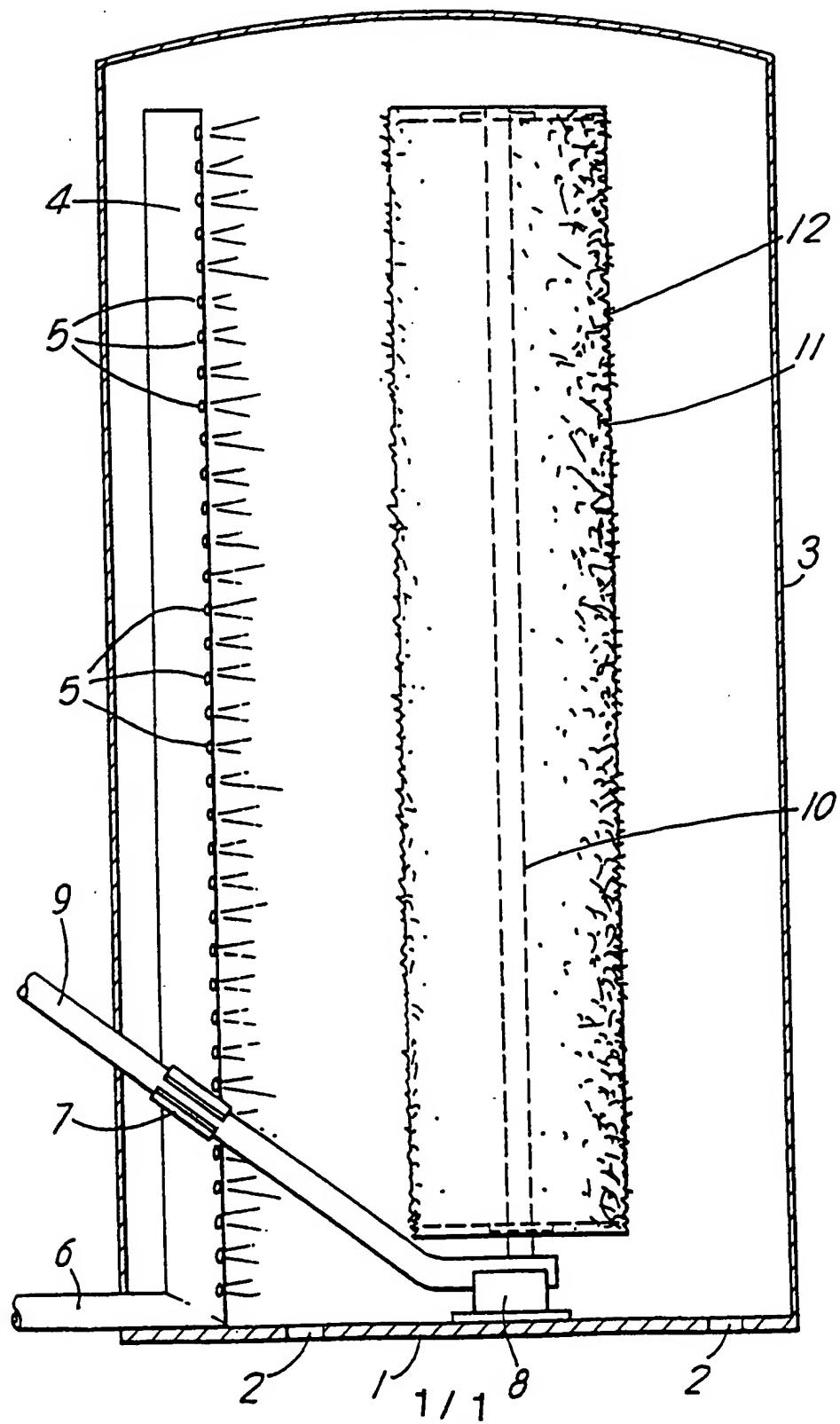
When substantially clean water issues from drain holes 2 the water can be switched off while the roller continues to rotate for several seconds throwing off the surplus water so that it can be taken from the device clean and in a substantially dry condition.

Claims

1. A device for washing the roller of a paint applicator comprising means for supporting the paint applicator so that the roller is free to rotate, means for directing a jet or plurality of jets of water against the roller over substantially the whole axial length of the roller in a direction with a tangential component whereby to cause the roller to rotate about its axis and cover means for covering the roller and the water directing means for preventing undesired splashing during operation of the device.
2. A device according to claim 1 which comprises a base, means for mounting the paint applicator with the axis of the roller substantially perpendicular to the base such that the roller is free to rotate about its axis water application means arranged to direct water against the paint roller over substantially the whole of its length and in a direction with a tangential component whereby application of the water against the roller causes the roller to rotate about its axis, means for connecting said water application means to a source of water under pressure and a cover for fitting over the roller and the water application means and co-operating tightly with the base such as to prevent escape of water and means preferably associated either with the base or with the cover allowing drainage of water from within the device.
3. A device according to claim 1 or claim 2 wherein the water application means comprises a pipe having a plurality of water outlets providing a plurality of high pressure jets for impinging upon the roller.
4. A device according to any one of claims 1 to 3 wherein the water application means has means for connecting to a water supply.
5. A device according to claim 1 for use with a paint applicator of the type having a roller supported at both ends in a yoke having a central handle wherein the cover is open at both ends and has a

longitudinal slot with perpendicular slots for receiving the yoke and the cover is closed at one end by a cap or plug carrying the water application means.

6. A device according to claim 5 wherein the cover is formed of resilient material that can be sprung apart to allow insertion of the yoke of the roller and will then spring back to close the slot.



**SUBSTITUTE SHEET**

**I. CLASSIFICATION OF SUBJECT MATTER** (If several classification symbols apply, indicate all)<sup>6</sup>

According to International Patent Classification (IPC) or to both National Classification and IPC

Int.C1. 5 B44D3/00; A46B17/06; B08B3/02

**II. FIELDS SEARCHED**Minimum Documentation Searched<sup>7</sup>

Classification System	Classification Symbols
Int.C1. 5	B44D ; A46B

Documentation Searched other than Minimum Documentation  
to the Extent that such Documents are Included in the Fields Searched<sup>8</sup>**III. DOCUMENTS CONSIDERED TO BE RELEVANT<sup>9</sup>**

Category <sup>10</sup>	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>
X	EP,A,0 207 879 (M. J. CHAPMAN ET. AL.) 7 January 1987 see page 2, line 10 - page 7, line 24	1-4
A	---	5,6
X	US,A,5 095 928 (W. A. PHIPPS) 17 March 1992 see column 2, line 20 - column 6, line 37	1-4
A	---	5,6
X	DE,A,2 360 884 (P. BOSCH) 26 June 1975 see page 2, paragraph 2 - page 6, paragraph 2	1-4
X	EP,A,0 472 308 (A. A. GOULD) 26 February 1992 see column 2, line 51 - column 4, line 16	1-4
	-----	

<sup>10</sup> Special categories of cited documents :<sup>10</sup>

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "T" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"A" document member of the same patent family

**IV. CERTIFICATION**

Date of the Actual Completion of the International Search

30 AUGUST 1993

Date of Mailing of this International Search Report

17.09.93

International Searching Authority

EUROPEAN PATENT OFFICE

Signature of Authorized Officer

DOOLAN G.J.

**ANNEX TO THE INTERNATIONAL SEARCH REPORT  
ON INTERNATIONAL PATENT APPLICATION NO.**

GB 9301148  
SA 75513

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.

The members are as contained in the European Patent Office EDP file on

The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

30/08/93

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
EP-A-0207879	07-01-87	JP-A-	62057672	13-03-87
		US-A-	4711258	08-12-87
-----	-----	-----	-----	-----
US-A-5095928	17-03-92	None		
-----	-----	-----	-----	-----
DE-A-2360884	26-06-75	None		
-----	-----	-----	-----	-----
EP-A-0472308	26-02-92	GB-A-	2247163	26-02-92
-----	-----	-----	-----	-----

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

**BLACK BORDERS**

**IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**

**FADED TEXT OR DRAWING**

**BLURRED OR ILLEGIBLE TEXT OR DRAWING**

**SKEWED/SLANTED IMAGES**

**COLOR OR BLACK AND WHITE PHOTOGRAPHS**

**GRAY SCALE DOCUMENTS**

**LINES OR MARKS ON ORIGINAL DOCUMENT**

**REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**

**OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**